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MAKLUMAT PERDAGANGAN DAN PERNIAGAAN / TRADE AND COMMERCIAL INFORMATION

ACER MULLS MSC AS REGIONAL SERVICES HUB

Taiwan-based Acer Inc is looking into establishing a base to provide value-added information technology (IT) services for the region in the Multimedia Super Corridor (MSC) in two years' time, sources were quoted. The company is closely studying the possibility as MSC's ready infrastructure and Malaysia's pool of knowledge workers fit well into Acer's plan to diversify into such services.

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FMC IS MARMORAN'S SOLE MANUFACTURER/ DISTRIBUTOR

Local coating specialist, First Malaysian Coatings (FMC), expects to make RM5 million in sales in two years following its appointment as the sole manufacturer and distributor of Marmoran's long life wall coatings. Under the agreement with South African-based Marmoran Pty. Ltd., FMC will be in charge of marketing the products not only in Malaysia but also in the Association of South-East Asian Nations (ASEAN). FMC, a 100% Malaysian company that was set up in 1997, is currently supplying specialised products and value-added services to the local automotive industry, sources were quoted. The agreement with Marmoran is seen as an initiative to diversify its business towards the building and construction sector. The product, which is still relatively new in the region, is strictly for industrial usage and will be marketed to architects, quantity surveyors, designers, developers and contractors. In the initial stage, the company will concentrate on the local market.

GOVERNMENT CLOSELY MONITORING USE OF NUCLEAR TECHNOLOGY

The Government is closely monitoring the use of nuclear technology to ensure protection from radiation, sources were quoted. The government through the Malaysian Institute of Nuclear Technology (MINT) and the Atomic Energy Licensing Board (AELB) was ensuring that activities involving use of nuclear technology were carried out correctly. Both the agencies will be able to provide the safety prescription to radiation-protection-officers for implementation in the respective organisations for the good of all. Even though use of nuclear technology in Malaysia was limited to only three sectors - medicine, agriculture and industry, close monitoring of its use is still necessary. Breach of established nuclear safety procedures by companies declined by 10 % between 2001 and 2002, with offences relating to workers, going down by 19 %. The Ministry of Science, Technology and Environment would pay due attention to efforts being made to enhance protection from radiation such as through education, training, information and upgrading of radiation protection infrastructure.

JOHOR TO DEVELOP MARINE FABRICATION HUB

Johor is set to turn its eastern coastline into the "marine fabrication hub" for the South-East Asian region following the full rehabilitation of the Teluk Ramunia Yard, sources were quoted. The marine construction yard is now capable of fulfilling orders from particularly the petroleum industry for steel fabrication such as "jackets", riser platform, living quarters and decks of oil and gas platforms. The "fabrication hub" would be part of the extensive marine industrial facilities located along the stretch from Pasir Gudang to Pengerang.

BROADBAND IN PENANG

The Chief Minister of Penang had launched a comprehensive study to gauge the demand for broadband service in both the private and public sectors, thereby making Penang the test bed for the first phase of the National Broadband Plan. The Malaysian Communications and Multimedia Commission (MCMC) has already launched the Penang Broadband Portal Northernhub at www.northernhub.gov.my which is designed to encourage the people, companies and organizations of Penang to register their interest in subscribing to broadband services. This portal is part of an initiative by the MCMC and the Local State Governments, sources were quoted.

MAKLUMAT PENGELUARAN / PRODUCT INFORMATION

NEW SOFTWARE ENABLES LIVE EXHIBITION ON INTERNET

The Datapolitan Group has capitalised on its proprietary technology platform, which works on the back of the Interactive Internet Environment (IIE), to transfer live proceedings at an exhibition to the Internet. IIE is an Internet platform that utilises a globally distributed network of servers to deliver Internet content and applications at a significantly reduced time and cost, sources were quoted. Datapolitan's technology includes virtual Internet space called "Distant Monitoring Booths" (DMBs), which are extended to every exhibitor to enable them to provide product information online that is identical to the information they offer at their actual booths. The virtual DMBs are interactive and exhibitors can amend and update the information onto the DMBs any time.

NEW PLASTIC MOULDING SOFTWARE

IME Technology Sdn Bhd recently made available Moldex3D, an easy-to-use plastic injection moulding software. The software, developed by Taiwan's Coretech System Co. Ltd., offers a new technology that gives an advanced simulation engine and fully integrated user interfaces, sources were quoted. Moldex3D is capable of running on just a notebook, thus eliminating the need to purchase expensive workstations.

'SMART DUST' SET TO CHANGE LIFESTYLES

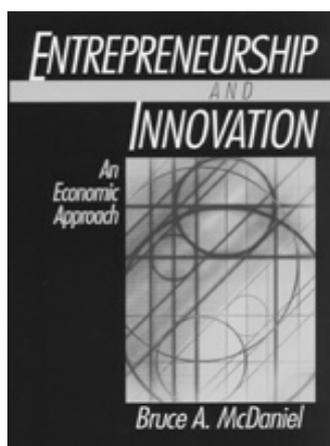
From the year 2004, Malaysia will undertake mass production of the contactless microchip, the new Malaysian custom-made MM Chip, sources were quoted. Dubbed "smart dust" because it is the smallest ever produced with such a variety of functions. With the high-security microchip embedded in banknotes, passports and identity cards, the documents will be difficult to forge. The microchip is also expected to replace the bar codes. The microchip would be produced by Silterra (M) Sdn Bhd's wafer fabrication plant at the Kulim Hi-tech Park in Kedah. It is 0.25 square mm in size and can be used as a security feature in currencies, personal identification documents, and in the health and defence sectors.

NEW TECHNOLOGY COULD ENABLE ONLINE SIGNATURES VIA THE MOUSE

Biometric technology developed by researchers from the Department of Computer Science at Queen Mary, University of London could enable online shoppers to sign for goods using their computer mouse. The technology would recognise exactly how the cardholder signs their name by analysing the range of movements involved when the user moves the mouse to write their signature. This could cut down on the instances of online fraud when used in conjunction with an existing password-based system. The technology is currently in the process of being patented, sources were quoted.

EXPANDING CONTENT MANAGEMENT

One of the largest enterprise content management software developers, Documentum Inc. will announce Authoring Integration Services, a feature that allows its content management platform to integrate with authoring and editing tools such as Adobe Systems Inc.'s Adobe Photoshop, Adobe Illustrator and Adobe InDesign and Quark Inc.'s QuarkXPress. The integration will allow content creators, owners and business users to contribute, manage, review and approve content using their tools of choice, sources were quoted. Automated workflows send content through the appropriate review and approval processes prior to publication. These workflows can be extended to include external partners, such as free-lancers, design agencies and printers.



ENTREPRENEURSHIP and innovation: an economic approach. McDaniel, Bruce A. Armonk: M.E. Sharpe, 2002. (HB615.M134 2002)

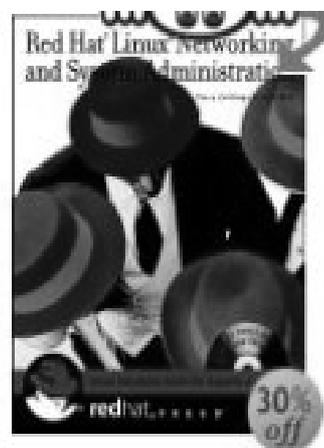
This is a groundbreaking economic analysis of entrepreneurship and the development process for innovation. The author strives to distinguish the role of the capitalist from that of an entrepreneur, and to show how the actions of the entrepreneur impact new employment, economic growth, and advancements in the overall standard of living. *Entrepreneurship and innovation* provides in-depth discussion of several critical concepts: the economic development of a product; Schumpeter's temporary monopoly control; the economic bounds of product and process innovations; and changing production functions. It also develops and integrates an analysis of how innovation-induced modifications in either products or processes affect both short-run and long-run average costs in production. As a special feature, each chapter includes an interview with a successful entrepreneur, and suggested readings are also provided. This is a useful book on entrepreneurship for academicians and practitioners.

ELECTROCHEMISTRY of silicon: instrumentation, science, materials and applications. Lehmann, Volker. Weinheim: Wiley-VCH, 2002. (QD181.S6L523 2002)

This book gives a comprehensive overview of the important aspects of silicon technology as well as examples of applications ranging from photonic crystals to biochips. It will serve materials scientists as well as engineers involved in silicon technology as a quick reference with its more than 150 technical tables and diagrams and ca.1,000 references cited for easy access of the original literature.

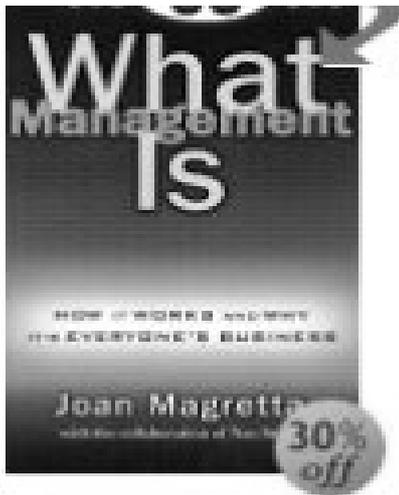
HYDROLYSIS, oxidation and reduction. Roberts, Stanley M. & Poignant, Geraldine, eds. New York: John Wiley & Sons, 2002. (TP248.65.E59H995 2002)

This book has 2 parts; Part 1 is the Review Section in the first volume of the series which contains a report by Roberts on the integration of biotransformations into the catalyst portfolio. Part 2 is the Procedure Section which contains a wide variety of synthetic protocols, such as epoxidations of unsaturated ketones and esters, asymmetric reductions of carbon-oxygen double bonds, asymmetric hydrogenations of carbon-carbon double bonds and other types of reaction. The featured catalysts include a wide range of different materials such as poly-D-leucine, D-fructose-based dioxiranes, oxaborolidine borane, some important titanium and ruthenium complexes as well as baker's yeast. For each reaction there are one or several detailed protocols on how to prepare and employ the various catalysts.



RED Hat Linux networking and system administration. Collings, Terry & Wall, Kurt. New York: Hungry Minds, 2002. (QA76.76.P4C711 2002)

This in-depth guide book delivers all the know-how you need to set up and manage a state-of-the-art Linux network. The book starts with the basics network planning and Red Hat installation and configuration. They then show you in detail how to set up network and Internet services, from establishing a network file system to configuring mail services. Eight chapters give the lowdown on customizing the kernel, automating tasks with scripting, performing backups, and the nuts-and-bolts maintenance information needed to keep the system running smoothly. The book also provides nearly 100 pages of proven strategies and tips for maintaining system security. Complete with utilities and code on CD-ROM (included), this official Red Hat Linux guide is the one resource needed for a secure, high-performance Linux network. The book is useful for those using Linux system in their network.



WHAT management is: how it works and why it's everyone's business. Magretta, Joan. New York: Free Press, 2002. (HD31.M212 2002)

What *Management Is*, identifies management as the driving force behind key innovations of the past century and presents a jargon-free look at the way its core principles work. The book uses concrete examples to explain fundamental concepts and practices like value creation, the 80/20 rule, and decision analysis in a way that sheds light on them for the uninitiated while providing needed perspective for the more experienced. A comprehensive exploration of the overall process rather than a traditional how-to, in its first section *What Management Is* examines why and how people work together; the second section shows how ideas are translated into action. With case studies ranging from Old Economy stalwarts like Ford to New Economy upstarts like Dell, along with pioneering nonprofits such as the Nature Conservancy and India's Aravind Eye Hospital, the authors explicitly lay out the basics along with a framework for employing them in a wide variety of situations. This book will help managers in any type of organization, including nonprofits and the public sector, do their jobs better.

ULTRAFAST lasers: technology and applications. Fermann, Martin E., Galvanauskas, Almantas & Sucha, Gregg, eds. New York: Marcel Dekker, 2003. (TA1675.U47 2003)

Ultrafast *Lasers* discusses micromachining applications for metals, dielectrics and biological tissue, advanced electronics and semiconductor processing, optical coherence tomography and multiphoton microscopy. It also considers optical sampling and scanning, THz generation and imaging, optical communication systems, absolute phase control of optical signals and structural changes induced in transparent materials with ultra short laser pulses.

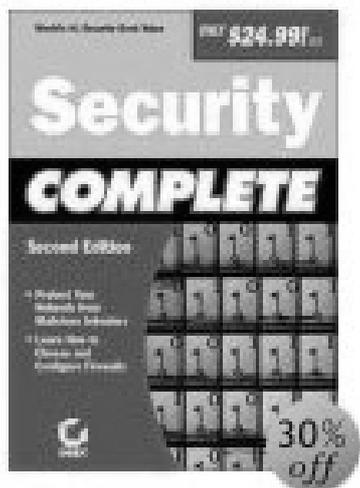
PRINCIPLES of geotechnical engineering. Das, Braja M. 5th ed. Pacific Grove: Brooks/Cole, 2002. (TA710.D231 2002)

This book is intended for introductory courses in soils and geotechnical engineering taken by virtually all civil engineering majors. It is useful for professionals and other readers wanting a general introduction to this important aspect of engineering. As in the first four editions of the book (1985, 1990, 1994 and 1998), this new edition offers an overview of soil properties and mechanics, together with coverage of field practices and basic engineering procedures. The book also provides the background information needed to support study in later design-oriented courses or in professional practice.



NETWORKING complete. 3rd ed. San Francisco: Sybex, 2002. (TK5105.5.N477 2002)

From LANs to WANs to the Internet itself, computer networking has become a crucial component of life in the 21st century. Every business needs a network to share information, computer resources, and Internet access, and nowadays many homes need a network for the same reasons. *Networking Complete* will provide readers with the information they need to stay connected to the world of computer networks. It includes an extensive section on network security, as well as coverage of hardware and software, networking fundamentals, design, maintenance and troubleshooting, intranets and extranets, interconnecting networks, and more. Useful for anybody who wants to know more about computer networking.



SECURITY complete. 2nd ed. San Francisco: Sybex, 2002. (QA76.9.A25S447 2002)

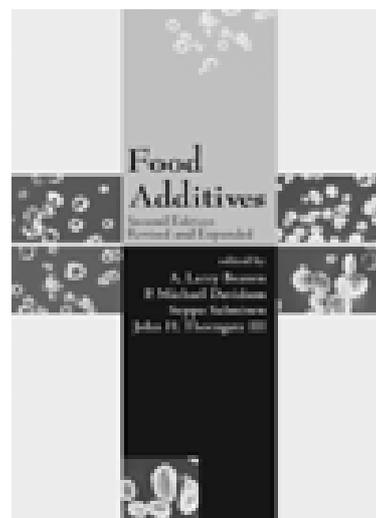
Whether you're assessing the security risks posed to an existing network, designing a security strategy for a new installation, or simply trying to keep viruses from damaging the data on your home PC, you need up-to-date information on all aspects of networking security. The book takes you into various operating systems including Windows 2000, Windows XP, Linux, and NetWare, showing you the tips and tricks to securing each one. Get up to speed on encryption, firewalls, and the industry's top security certifications, and soon you'll be able to ensure the security of your home and business networks.. From LANs to WANs to the Internet itself, network security has become a crucial component of life in the 21st century. Every business needs a secure network to share information, computer resources, and Internet access, and nowadays many home users need to be aware of security threats and countermeasures as well. *Security Complete*, 2nd Edition will provide you with the information that to ensure your data is safe and secure.

ENVIRONMENTAL science: earth as a living planet. Botkin, Daniel B. & Keller, Edward A. 4th ed. Chichester: Wiley-Interscience, 2003. (fGE105.B749 2003)

The purpose of *Environmental Science* is to provide an up-to-date introduction to the most important and useful concepts in the study of the environment. Information is presented from an analytical and interdisciplinary perspective from which we must view environmental issues in order to deal successfully with them. The goal is to teach the reader how to think through environmental issues.

ENVIRONMENTAL geology. Montgomery, Carla W. 6th ed. New York: McGraw-Hill, 2003. (fQE38.M787 2003)

The book starts with some background information: a brief outline of earth's development to the present, and a look at one major reason why environmental problems today are so pressing – the large and rapidly growing human population. This is followed by a short discussion of the basic materials of geology – rocks and minerals – and some of their physical properties, which introduces a number of basic terms and concepts that are used in later chapters.



FOOD additives. Branen, Alfred Larry, *et al.* 2nd ed. New York: Marcel Dekker, Inc., 2002. (TX553.A3F688 2002)

This book reports on breakthroughs in food additive research and use, emphasizing the biochemical, chemical, and toxicological components of numerous food additives and their benefits and risks. It overviews food additive use and consumption and gives information on the safety evaluation of food additives. Each of the major food additive categories is discussed in relation to chemical analysis, the function and mechanism of action, regulations governing use, and toxicological concerns. This second edition contains 10 new chapters on the latest research in areas such as food phosphates, commercial starches, essential fatty acids, and fat substitutes. Food technologists in research or manufacturing and food marketers will find this book quite valuable.



The ISO 9001: 2000 audit kit. Keeney, Kent A. Milwaukee: ASQ Quality Press, 2002. (TS156.6.K26 2002 f)

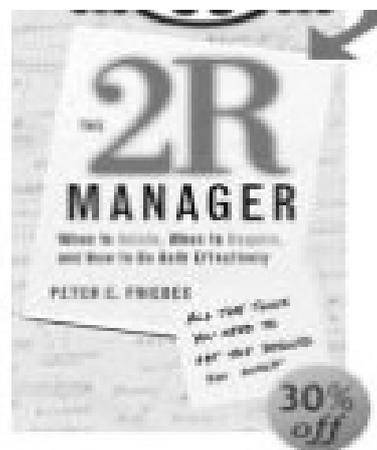
Quality personnel in all functions and at all levels can use this guide as a blueprint for planning and auditing activities. This package of audit forms is a user-friendly tool kit for conducting internal ISO 9000 audits. Audit program managers, administrators, or anyone charged with scheduling, tracking and following internal audits can use this kit as an aid in simplifying an audit program. The material addresses problems faced by audit administrators, and offers solutions. This timesaving kit ensures a complete, consistent audit that conserves not only the auditee's time, but also the time spent by the auditor as well. Designed for one complete audit, *The ISO 9001:2000 Audit Kit* contains 27 audit packets that pave the way for a streamlined internal audit for the 9001:2000 standards. Full instructions are included.

CATALYTIC air pollution control: commercial technology. Heck, Ronald M., Farrauto, Robert J. and Gulati, Suresh T. 2nd ed. New York: John Wiley & Sons, 2002. (TD889.H448 2002)

The book contains an extensive bibliography with simplified descriptions of key parameters for compliance with worldwide regulations. This edition aims to be an essential professional companion for all scientists and engineers including air pollution engineers, automotive engineers, chemists, chemical engineers working on emission control and regulators. The first five chapters describe the fundamentals of catalysts and catalysis. Two new chapters have been added on the chemical and physical properties on monoliths, the support of choice for environmental applications. Included are chapters on fuel cells/fuel processing and novel approaches for purifying ambient air. The current technologies for controlling emissions from mobile and stationary sources include mobile sources, stationary sources and emerging technologies.

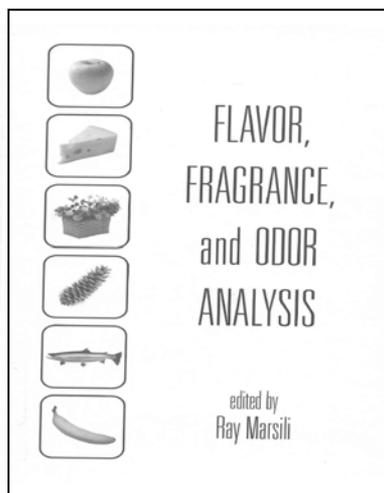
PHYSICAL properties of lipids. Marangoni, Alejandro G., Narine, Suresh S., eds. New York: Marcel Dekker, 2002. (TP453.L56P578 2002)

This reference/text provides in-depth coverage on the physical properties of fats and oils, including surface and rheological characteristics as well as crystallization and phase behaviour for improved nutrition and functionality in the design of new food products. *Physical Properties of Lipids* presents novel methods to model the crystallization behaviour, structure, and mechanical properties of lipid networks, discusses the use of spectroscopic techniques to determine microviscosity and structural order in lipid systems; offers recent techniques to formulate emulsifiers in low-fat spreads; examines the effects of blending and chemical and enzymatic interesterification on the properties of fats and oil, includes a broad overview of the texture of fats and highlights the use of fat crystals in the stabilization of emulsions.



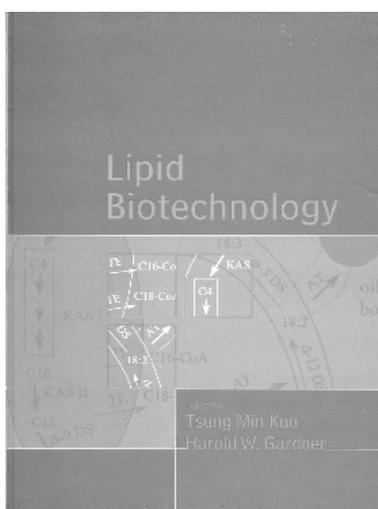
The 2R manager: when to relate, when to require, and how to do both effectively. Friedes, Peter E. San Francisco: Jossey-Bass, 2002. (HD30.3.F898 2002)

This book offers specific advice tailored to each individual's current management style. Readers will take some self-surveys, see the results, and learn the impact they now have on those they manage. They will learn what changes to make and how to make them. Managers have naturally either a Relating or a Requiring style. Those who naturally require are weaker at relating and vice versa. The best managers possess the ability to do both well and know when to choose one over the other. Most managers miss opportunities. Some try to be their employee's friend when they need to be setting priorities and deadlines. Others, thinking they have the answers, miss getting new ideas and destroy their employee's motivation. Having the ability to relate and require is fundamental for effective managing. Through a simple survey, Friedes allows readers to discover their natural style: Relator or Requirer. He then offers a variety of practical suggestions for learning and developing areas that likely need improvement based on your particular style. This simple model works for all kinds of leaders whether a business manager, sports coach, teacher, or parent.



FLAVOR, fragrance and odor analysis. Marsili, Ray, ed. New York: Marcel Dekker, 2002. (TX546.F589 2002)

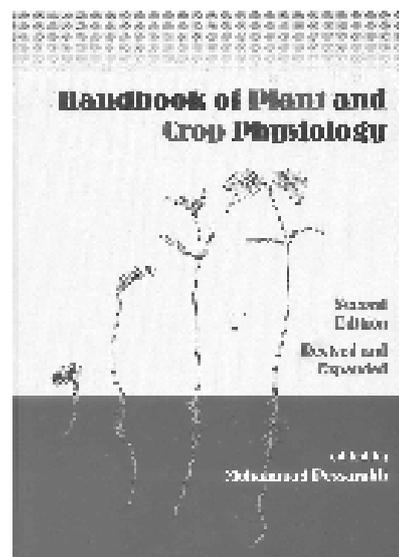
Flavor; *Fragrance, and Odor Analysis* describes the isolation and concentration of odor impact chemicals from foods, beverages, and consumer products prior to gas chromatography (GC) manipulation; new developments in time-of-flight mass spectrometers and electronic-nose instrumentation; the relationship between chemical structure and fragrance/flavor; how to identify chemicals responsible for flower scents; modern olfactometric approaches including the GC-"SNIF" technique and others.



LIPID biotechnology. Tsung, Min Kuo, Gardner, Harold W, eds. New York: Marcel Dekker, 2002. (TP248.65.L57L764 2002)

Lipid *Biotechnology* covers modern techniques in genetic engineering for the modification of conventional oil seed crops; biosynthetic pathways for cutin polymers, flavor volatiles, oxylipins, and terpenoid compounds; the use of lipases and phospholipases in the creation of structured lipids and fats, including cocoa

butter, low-calorie fats, and Betapol; emerging methods utilizing supercritical carbon dioxide as a benign solvent for lipid analysis, fractionation, and enzymatic reaction; reaction conditions, reactor design, solvent selection, immobilization technology, and enzyme sources for optimal large-scale manufacturing; the formation of oxylipins through the lipoxygenase pathway, as well as other unusual fatty acids and more.



HANDBOOK of plant and crop physiology. Mohammad Pessarakli, ed. 2nd ed. New York: Marcel Dekker, 2002. (SB112.5.H236 2002)

This second edition totally revised and expanded reference provides comprehensive coverage of the latest discoveries in plant physiological stages and processes under both normal and stressful conditions—emphasizing environmental factors, climatic changes, developmental stages, and growth regulators, as well as linking plant and crop physiology to the production of food, feed, and medicinal compounds. Offering new sections on cellular and molecular aspects of plant and crop physiology, plant and crop physiological responses to heavy metal concentration and agrichemicals, computer modeling in plant physiology, and plant and crop physiology under controlled conditions and in space, the *Second Edition of the Handbook of Plant and Crop Physiology* discusses recent investigations of specific plant and crop physiological responses under normal as well as salt, drought, and environmentally stressful conditions; novel computer simulation techniques for plant and crop allocation processes; modern advances in plant genetics and plant growth hormones; future prospects for plant and human life support on other planets and more.

**MAKLUMAT PENYELIDIKAN
DARI USM / RESEARCH INFORMATION
FROM USM**

BIOFUEL PRODUCTION FROM VEGETABLE OILS OVER SHAPE SELECTIVE CATALYSTS

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ABSTRACT

Biofuel production has gained a lot of attention for achieving future goals of sustainability and a cleaner environment. With lower content of sulfur and nitrogen, biofuel is found to be less pollutant compared to fossil fuel. Vegetable oils such as palm oil, rapeseed oil and soya bean oil have been used for the production of bio-diesel. The direct conversion process of biofuel production especially bio-gasoline has been studied over various types of acidic catalysts by catalytic cracking of vegetable oils. The product distributions were varied from aromatics to aliphatic hydrocarbons depending upon the catalyst used. The most common catalysts used were different types of microporous and mesoporous molecular sieve catalyst. The acidity and pore structure of these catalysts are the main factors, which influence the quality of the biofuel produced. In order to improve the fuel properties, different types of shape selective catalysts were used. This technology will be very useful for conversion of waste vegetable oils, available from fast food restaurants, to useful chemicals and liquid biofuel.

STABILITY AND SENSORY ACCEPTABILITY OF BREAD ENRICHED WITH OMEGA-3-FATTY ACIDS

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ABSTRACT

Whole meal breads were prepared by substituting shortening with 3 different levels of microencapsulated omega-3 fatty acids powder, 1.0%, 1.75% and 2.5% (as percentage per total weight). The stability of omega-3 fatty acids (EPA & DHA) was evaluated at various time interval in breads stored for 7 days through analysis by i) gas chromatography (GC), ii) Peroxide value (PV) and iii) Anisidine value (AV) determinations. Acceptability of the breads was assessed through sensory analysis by evaluating the fishy flavour, palatability and palatability difference compared to control breads. Texture analysis was also

carried out to see whether there is any effect on quality of the breads. Quantitative analysis obtained from GC showed 80% - 89% recovery of EPA and DHA after baking. The % values show no further significant changes during storage time ($p > 0.05$) for the breads incorporated with 3 different levels of omega-3. This result correlated with PV and AV analyses, which showed relatively low values throughout the storage time. Substituting the shortening with omega-3 powder does not affect the specific volume and quality of the breads. Breads incorporated with 1.0% omega-3 powder gave an acceptable palatability even after 3 days storage at ambient temperature. The results indicated that microencapsulated omega-3 is stable, can be incorporated into the breads and is a suitable substitute for shortening thus giving an added nutritional value to bread.

USE OF SAGO STARCH AS A FAT REPLACER IN REDUCED-FAT LEGUME BASED COOKIES

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ABSTRACT

Cookies were prepared with different percentage levels (0, 20, 40, 60, 80 and 100) of sago starch pastes as fat replacer. The chemical, physical and organoleptic attributes of the cookies were determined. Fat replacement at percentage levels of 0, 20, 40, 60, 80 and 100 resulted a decrease in the percentage of total fat content of 27.95, 25.30, 20.53, 15.49, 11.15 and 6.05, respectively. Increasing percentage levels of sago starch pastes as fat replacer in cookies were found to increase in hardness value significantly ($p < 0.05$) but decreased in fracturability of cookies. Increasing levels of fat replacer were found to significantly ($p < 0.05$) increase thickness of cookies but decreased the diameter and spread ratio. Higher final moisture content than the control was shown in samples with highest level of sago starch. Sensory evaluation showed that all fat replacer cookies were not significantly ($p > 0.05$) different with the control in terms of aroma, flavour, and aftertaste. Cookies at percentage level of 60, 80 and 100 fat replacer, were significantly ($p < 0.05$) different with the control with regards to colour, crispness and overall acceptability.

SIMULTANEOUS DETERMINATION OF PYRIMETHAMINE AND SOLPHADOXINE IN FILTER PAPER BLOOD SPOTS BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

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ABSTRACT

Assay procedure for simultaneous determination of SDX/PYR from blood spot filter paper is currently available but laborious and inadequate to quantify lower levels of pyrimethamine. With this in view a new rapid and simple approach was developed for simultaneous determination of sulphadoxine(SDX) and pyrimethamine (PYR) from blood dried on filter paper. After solid-phase extraction, SDX and PYR were analysed using reverse phase technique. Chromatographic peaks of SDX, PYR and internal standard were resolved to base line with retention time of 8, 12 and 10 minutes respectively. The mean recoveries of extraction procedure for SDX and PYR were $61.6 \pm 5.3\%$ and $59.8 \pm 3.8\%$ respectively. The day to day, within day precision and accuracy for both compounds were less than 15%. The calibration curve for SDX and PYR were linear ($r \geq 0.997$) in the range of 1 - 20 $\mu\text{g/ml}$ and 0.1 - 2.5 $\mu\text{g/ml}$ respectively. The LOD and LOQ for SDX were 0.5 $\mu\text{g/ml}$ and 1.0 $\mu\text{g/ml}$ respectively. The corresponding values for PYR were 0.05 $\mu\text{g/ml}$ and 0.1 $\mu\text{g/ml}$ respectively. This method used buffer solution for drug elution from filter paper and does not require pH adjustment prior to extraction compared with those reported method, which involves acid elution and pH adjustment. The sonication technique for drug elution, with moderate sonication time of twenty minutes allows for analysis of large number of samples thus suitable for routine drug analysis. In conclusion, an improved assay technique is described for the determination of PYR and SDX in blood spotted filter paper.

FLUE GAS DESULFURIZATION UTILIZING WASTE MATERIAL

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ABSTRACT

Flue Gas Desulfurization utilizing absorbent synthesized from coal fly ash was studied in a packed bed reactor. The absorbent was synthesized using coal fly ash, calcium sulfate and calcium oxide using steam and water hydrothermal treatment. The effect of various absorbent preparation variables: hydration period, ratio of CaO to fly ash, amount of CaSO₄ used and drying temperature towards the micro structural properties of the absorbent were studied. The results obtained ranged from

12.9-169.3 m²/g for BET (Brunauer-Emmett-Teller) specific surface area, 0.045-0.258 cm³/g for total pore volume and 48.4-140.8 Å for average pore diameter. XRD (X-Ray Diffraction) was used to identify the various phases present in the absorbent before and after reacting with sulfur dioxide (SO₂) while SEM (Scanning Electron Micrograph) analysis was used to observe the macro-structural properties of the absorbent. An experimental test rig was constructed to test the activity of the absorbent. The synthesized adsorbent was found to have high sulfur dioxide (SO₂) absorption activity. The effect of reaction temperature, SO₂ concentration and nitrogen monoxide (NO) on the SO₂ absorption activity was also investigated. The output from this study showed that the efficiency of the synthesized absorbent in absorbing SO₂ is as high as those absorbent available in the market and offers an attractive alternative to treat flue gas as it requires a lower operating and installation cost. Small and medium scale industries that are using boiler would be the potential client interested in utilizing this technology.

TELECOMMUTING AND FIRMS: PERCEPTIONS OF HUMAN RESOURCE MANAGERS IN MALAYSIA

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USM Main Campus

ABSTRACT

Telecommuting concept has been a new phenomenon towards most of Malaysian firms especially the human resource managers. Further, the drive towards promoting the telecommuting concept need to be done as part of paradigm change as Malaysia is becoming an industrialized nation - Vision 2020 of the Prime Minister. This study was conducted on the Malaysian human resource managers in representing their firm's stand on the telecommuting concept. The purpose of this paper is to explore the level of acceptance of the telecommuting concept by the human resource managers. It was discovered that high percentage of the human resource managers shown their concern on the acceptance of the telecommuting concept.

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